



Forest Health Protection Pacific Southwest Region



Date: March 22, 2012

File Code: 3400

To: Nancy Mulligan, Ecosystems Management, Mendocino National Forest

Subject: Evaluation of M9 Salvage (FHP Report No. N12-03)

At the request of Chad Atwood, Silviculturist (Mendocino NF), a site visit was made to the M9 Sanitation/Salvage Project Area on February 13, 2012. The objectives were to assess the current stand conditions, determine risk associated with “no action” alternative and evaluate the proposed action for potential success in reducing risk of future bark beetle mortality. Chad Atwood, Tucker Sierzega (Mendocino NF) and Cynthia Snyder (FHP) were present.

Background

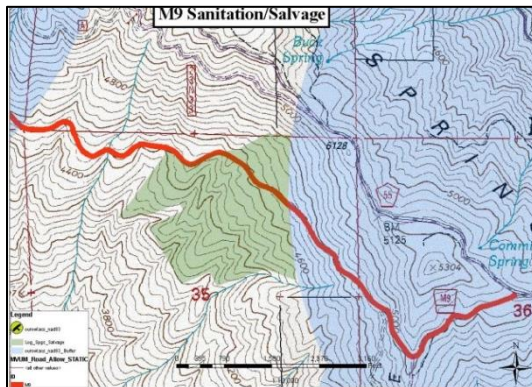


Figure 1. Map of Unit 1, M9 Sanitation/Salvage project area showing proximity to Forest Route M9.

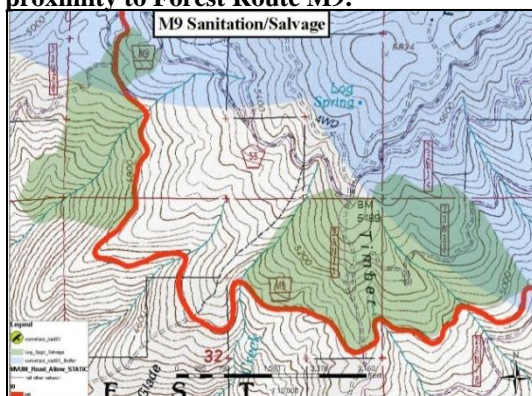


Figure 2. Map of Units 2 and 3, M9 Sanitation/Salvage project area showing proximity to Forest Route M9.

The proposed project area is 250 acres approximately 10 miles southwest of the community of Paskenta, CA (T 23N R8W Sec. 26-35, Mt. Diablo meridian). These units are all generally located on or closely adjacent to the M9 road (Figures 1 and 2). Vegetation types include natural ponderosa pine forest and plantations. Proposed units include mostly south and west facing slopes along Log Springs Ridge from Log Springs Work Station to Daves Ridge, between 4,000 and 5,000 feet in elevation. Proposed action is to remove green and dead/dying ponderosa pine from patches of western pine beetle-caused mortality along the M9 road (Figure 3).

The Forest Vegetation Management Plan for the North Grindstone area, which encompasses the project area, includes winter and transitional range for black-tailed deer, as well as parts of the Buttermilk Late Successional Reserve where habitat for northern spotted owl, marten, fisher, elk, and

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Figure 3. View of M9 Sanitation/Salvage project area from across the Scott Creek drainage.

goshawk have great importance. Fifty-five acres within the project area are classified as being in WUI (wildland urban interface).

Observations

Western bark beetle, *Dendroctonus brevicomis*, populations have been increasing over the past several years due to long term drought and high tree volumes. Mild winter temperatures have reduced the usual mortality of overwintering beetles in much of northern California resulting in more successful broods each year. These two factors have led to larger than normal pockets of pine mortality due to successful bark beetle attacks in these stands. These beetles tend to attack larger trees with thick phloem in overstocked stands that have had reduced vigor and growth in the past 5 years.

Observations were made as we approached the project area on the M9 Road. Mortality was evident from a distance with many large patches seen. These patches started to appear in 2011 and were noticed near the Log Springs Work Station on Timber Ridge in August of that year (Figure 4).

Stops were made at two separate sites along the M9 Road. The first stop was in Unit 1 (Figure 1) at N39° 48.692' W122° 43.338' at 4,782 ft. elevation. Western pine beetle was evident in large pockets (20+ dead trees) throughout the general area, many coalescing



Figure 4. Western pine beetle-caused mortality seen in august of 2011 along the M9 Road near Timber Ridge.



Figure 5. Western pine beetle-caused mortality in ponderosa pine.

into still larger patches ($\sim \frac{1}{4} - \frac{1}{2}$ acre), and as scattered mortality (Figure 5). The density was high, BA of over 200 sq.ft./ac/, all ponderosa pine, all over 12 inches DBH. Ponderosa pine dwarf mistletoe, *Arceuthobium vaginatum*, was also evident in many of the pines. The proposed action is thinning to a BA of approximately 80 sq.ft./ac. with a clumpy distribution. It is thought that even though this is a harsh site, forest cover can be maintained even thinning that aggressively. Any more aggressive and it may be lost to shrub. Sugar pine, black oak and white oak would be favored where they exist to promote the retention of these species.



Figure 6. Large patch of western pine beetle-caused mortality in ponderosa pine, approximately 1 acres in size.

The second site was in Unit 2 (Figure 2) at N39° 48.420' W122° 45.499' at 4,777 ft. elevation. Western pine beetle was evident in large pockets (20+ dead trees) throughout the general area, many coalescing into still larger patches ($\sim \frac{1}{2} - 1$ acre), and as scattered mortality (Figure 6). The density was high, BA of over 200 sq.ft./ac/, all ponderosa pine, all over 12 inches DBH. Red turpentine beetle, *D. valens*, was evident in many trees weakened and killed by western pine beetle.

Ponderosa pine dwarf mistletoe, *A. vaginatum*, was also evident in many of the pines. The proposed action is again thinning to a BA of 80 sq.ft./ac. with a clumpy distribution.

Discussion

The current mortality is extensive enough throughout the project area that immediate action is recommended. The proposed action of thinning to 80 square feet of basal area would reduce the density providing residual trees with growing space and access to limiting nutrients and water thus increasing vigor and reducing future risk of bark beetle-caused mortality. The plan to remove green, as well as dead and dying material is encouraging. By removing green trees that may have evidence of bark beetle attack (pitch tubes, frass, fading crown), the Forest is more likely to remove a greater number of the current beetles from the population thereby reducing the likelihood of expanding populations.

Under “No Action” alternative, this site will continue to experience high levels of ponderosa pine mortality due to increasing bark beetle populations. Western pine beetle-caused mortality is often drought driven. Water years 2009/10 and 2010/11 were very good but 2011/12 has seen increasing precipitation deficit in Northern California. This current precipitation deficit will most likely lead to increased beetle pressure and subsequent mortality in overstocked pine forests.

The proposed thinning would benefit the stands along the M9 Road by removing beetle-infested material as well as reducing density and increasing vigor of residual trees. This in turn may protect the so-far unaffected acres within the Buttermilk LSR and WUI from beetle-caused mortality. The proposed thinning would meet the Regional Forester’s density management policy that high risk density levels are not reached again for at least 20 years. I fully support the treatments as described.

If you have any questions regarding this report and/or need additional information, please contact Cynthia Snyder at 530-226-2437 or Pete Angwin at 530-226-2436.

/s/ Cynthia Snyder

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CC: Nancy Mulligan, Chad Atwood, Josh Wilson, Pete Angwin, Sheri Smith, Julie Lydick and Phil Cannon